

# Conference program

(INV) - invited talk (25 + 5 minutes)  
(HT) - hot topics talk (12 + 3 minutes)

## Sunday, June 26

Hall: Alfa

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- 15:00-19:00 Registration “Radisson Blu hotel Lietuva” conference center
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- 16:30-18:30 Walking city tour (meeting point “Radisson Blu hotel Lietuva” lobby)
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## Monday, June 27

Hall: Alfa

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- 8:00-9:00 Registration and welcome coffee
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- 9:00-9:15 Welcome greetings (Hall Alfa)

### Plenary Lecture 1 Chair: Joachim Burgdörfer

Hall: Alfa

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| 9:15-10:00 | Light driven ionization processes<br>... and the role of the photon's momentum | Reinhard Dörner<br>Germany<br>(Plen-1) |
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### 10:00-10:30 Coffee break

### Parallel session (A1) Chair: Reinhard Dörner

Hall: Alfa

Invited speakers:

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|-------------|--|---|
| 10:30-11:00 | First instants following XUV photoionization: attosecond and femtosecond dynamics in molecules, from carbon structures to proteins | Franck Lépine, France<br>(A1-1-INV)         |
| 11:00-11:30 | Ultrafast spectroscopy of bio-chromophores with few-femtosecond UV pulses  | Rocío Borrego Varillas, Italy<br>(A1-2-INV) |
| 11:30-12:00 | All-XUV-Optical Nonlinear Absorption Spectroscopy with Free-Electron Lasers  | Christian Ott, Germany<br>(A1-3-INV)        |
| 12:00-12:30 | Attosecond science at the Linac Coherent Light Source: recent developments and future directions                                   | Agostino Marinelli, USA<br>(A1-4-INV)       |

### Parallel session (B1) Chair: Károly Tőkési

Hall: Beta

Invited speakers:

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|-------------|---|---|
| 10:30-11:00 | Highly charged ions interacting with 2D materials | Marika Schleberger,<br>Germany (B1-1-INV) |
| 11:00-11:30 | Interaction of trapped atoms with twisted light   | Andrey Surzhykov Germany<br>(B1-2-INV)    |
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11:30-12:00	Probing charge-transfer neutralization reactions of atmospheric importance using the ion storage facility DESIREE	Richard Thomas, Sweden (B1-3-INV)
12:00-12:30	Experimental Studies of Nonperturbative Dynamics in Heavy-Ion-Atom Collisions	Pierre-Michel Hillenbrand, Germany (B1-4-INV)
<b>12:30-14:15 Lunch break</b>		
<b>Plenary Lecture 2</b> Chair: <b>Rosario González-Férez</b> <b>Hall: Alfa</b>		
14:15-15:00	Quantum gases of ultracold polar molecules	Silke Ospelkaus-Schwarzer, Germany (Plen-2)
<b>15:00-15:30 Coffee break</b>		
<b>Parallel session (A2)</b> Chair: <b>Silke Ospelkaus-Schwarzer</b> <b>Hall: Alfa</b>		
Invited speakers:		
15:30-16:00	Ultracold RbCs Molecules: Robust Storage Qubits and Rotationally Magic Traps	Simon L. Cornish, UK (A2-1-INV)
16:00-16:30	Self-Pinning Transition of a Tonks-Girardeau Gas in a Bose-Einstein Condensate	Thomas Busch Japan (A2-2-INV)
16:30-17:00	TBA	Cristiane Morais-Smith, The Netherlands (A2-3-INV)
Hot topics:		
17:00-17:15	A Weakly-Interacting Many-Body System of Rydberg Polaritons based on Electromagnetically Induced Transparency	Ite A. Yu, Taiwan (A2-1-HT)
17:15-17:30	Response of Small Helium Clusters to Strong Laser Fields	Maksim Kunitski, Germany (A2-2-HT)
<b>Parallel session (B2)</b> Chair: <b>Darius Abramavičius</b> <b>Hall: Beta</b>		
Invited speakers:		
15:30-16:00	Absolute Measurement of a THz Transition Frequency Referenced to a Magnetic Dipolar Transition in Ca <sup>+</sup> ion	Caroline Champenois, France (B2-1-INV)
16:00-16:30	Extending coherent multidimensional spectroscopy to new target systems and new light sources	Lukas Bruder, Germany (B2-2-INV)
16:30-17:00	Terahertz Frequency	Luigi Consolino, Italy (B2-3-INV)
Hot topics:		
17:00-17:15	Quantitative Study of Enantiomer-Specific State Transfer	Johannes Bischoff, German (B2-1-HT)
17:15-17:30	K-LL Auger Decay of Doubly Excited States of Argon	Matjaz Žitnik, Slovenia (B2-2-HT)
<b>17:30-19:15 Poster session 1 and coffee break</b>		
19:15-21:30	Welcome Party	

# Tuesday, June 28

Hall: Alfa

8:00-9:00 Registration and welcome coffee

## Plenary Lecture 3 Chair: Gediminas Juzeliūnas

Hall: Alfa

9:00-9:45 Attoscience and Quantum Information Maciej Lewenstein, Spain (Plen-3)

9:45-10:15 Coffee break

## Parallel session (A3) Chair: Wen-Te Liao

Hall: Alfa

Invited speakers:

10:15-10:45 Molecular polaritonics and subwavelength cavity QED Johannes Feist, Spain (A3-1-INV)

10:45-11:15 New Perspectives on Quantum Geometry, Superconductivity and Bose-Einstein Condensation Päivi Törmä, Finland (A3-2-INV)

11:15-11:45 Quantum light-induced nonadiabaticity in molecular systems Agnes Vibok, Hungary (A3-3-INV)

11:45-12:15 A fresh perspective on the Casimir effect Almut Beige, United Kingdom (A3-4-INV)

## Parallel session (B3) Chair: Marika Schleberger

Hall: Beta

Invited speakers:

10:15-10:45 Spectroscopy of helium-tagged molecular ions Elisabeth Gruber, Austria (B3-1-INV)

10:45-11:15 Environmental Effects on Electron Attachment Jaroslav Kočíšek, Czech Republic (B3-2-INV)

11:15-11:45 Charge migration in betaine by impact of fast atomic ions Patrick Rousseau, France (B3-3-INV)

11:45-12:15 Ultrafast Processes in Amino-Acids, Amino-Acids Derivatives and Clusters of Amino-Acids Induced by Ionizing Radiation Sergio Diaz-Tendero, Spain (B3-4-INV)

12:15-14:00 Lunch break

## Plenary Lecture 4 Chair: Daniela Rupp

Hall: Alfa

14:00-14:45 Probing Nuclear Dynamics with Electron Scattering Juraj Fedor, Czech Republic (Plen-4)

14:45-15:15 Coffee break

## Parallel session (A4) Chair: Agnes Vibok

Hall: Alfa

Invited speakers:

15:15-15:45	High Resolution Resonant Auger Spectroscopy of Ultrafast-decaying. Core-ionized Atoms	Tommaso Mazza, Germany (A4-1-INV)
15:45-16:15	Attosecond Science at the FERMI Free Electron Laser	Carlo Callegari, Italy (A4-2-INV)
16:15-16:45	Two-Color X-Ray Pump-Probe Spectroscopy at SwissFEL	Kirsten Andrea Schnorr, Switzerland (A4-3-INV)
Hot topics:		
16:45-17:00	Anisotropic dynamics of two-photon ionization: real time imaging of photoemission	J�r�mie Caillat, France (A4-1-HT)
17:00-17:15	Rabi Dynamics Driven by a Seeded FEL at XUV-wavelengths	Mattias Bertolino, Sweden (A4-2-HT)
<b>Parallel session (B4) Chair: Krzysztof Sacha</b>		
<b>Hall: Beta</b>		
Hot topics:		
15:15-15:30	Wave-packet dynamic in a SU(2) non-Abelian Gauge field	Wilkowski David, Singapore (B4-1-HT)
15:30-15:45	Quantum fluids of light in hot atomic vapors	Tangui Aladjidi, France (B4-2-HT)
15:45-16:00	Manifestation of relative phases in collision of BoseBose droplets	Mariusz Gajda, Poland (B4-3-HT)
16:00-16:15	Precision Measurements and Pauli Blocking with Quantum Degenerate Metastable $^3\text{He}$	Yuri van der Werf, The Netherlands (B4-4-HT)
Invited speakers		
16:15-16:45	Non-equilibrium state preparation in driven-dissipative atomic quantum gases	Andr� Eckardt, Germany (B4-1-INV)
16:45-17:15	Synthetic Gauge Fields with Ultracold Atoms	Monika Aidelsburger, Germany (B4-2-INV)
<b>17:10-19:00 Poster session 2 and coffee break</b>		
<b>Public lecture Chair: Gediminas Juzeli�nas</b>		
<b>Hall: Alfa</b>		
19:15	Time, Einstein and the coolest stuff in the universe	William Phillips, USA (Pub-Lect-1)

## Wednesday, June 29

8:00-9:00 Registration and welcome coffee

**Plenary Lecture 5** Chair: **Francesco Saverio Cataliotti Cataliotti**

Hall: Alfa

9:00-9:45 Dynamically symmetry breaking in a bipartate optical lattice Ian B. Spielman, USA  
(Plen-5)

**9:45-10:35 CONFERENCE PHOTO**  
Coffee break

**Young Scientist Prize Lecture** Chairs: **Maciej Lewenstein, Joachim Burgdörfer**

Hall: Alfa

10:35-11:30 Young Scientist Prize Award Ceremony and Lecture by Jordi Tura i Brugués,  
Jordi Tura i Brugués “ Detecting Bell correlations in quantum The Netherlands  
many-body systems” (Plen-6)

11:30-12:05 AMOPD General Assembly

12:05-12:45 EGAS General Assembly

**12:45-14:00 Lunch**

14:00 Option 1: Tour to Trakai Castle;  
Option 2: Visit to Laser company “Light conversion”  
and Labs of Dept. Phys. of Vilnius university;  
Meeting point: Radisson Blu hotel lobby (1<sup>st</sup> floor)

**19:30 Conference dinner**

19:15 Busses will leave Radisson BLU hotel, meeting point hotel lobby (1<sup>st</sup> floor)

## Thursday, June 30

8:00-9:00 Registration and welcome coffee

### Plenary Lecture 7 Chair: H el ene Perrin

Hall: Alfa

9:00-9:45 Spatiotemporal Control of Brain Function Using Holographic  
Valentina Emiliani, France (Plen-7)

### 9:45-10:15 Coffee break

### Parallel session (A5) Chair: Christophe Blondel

Hall: Alfa

Invited Speakers:

10:15-10:45 Probing of the ground-state atomic alignment-to-orientation conversion in an external magnetic field with different polarizations of the probe beam  
Marcis Auzinsh, Latvia (A5-1-INV)

10:45-11:15 Dual Comb Spectroscopy for Electronic Fingerprinting  
Birgitta Schultze-Bernhardt, Austria (A5-2-INV)

11:15-11:45 Cavity mode-dispersion spectroscopy  
Roman Ciurylo, Poland (A5-3-INV)

11:45-12:15 A Decade with Quantum Biology: How Non-Trivial is Quantum Mechanics of Photosynthetic Light-Harvesting?  
Tom a  Man al, Czech Republic (A5-4-INV)

Hot topic:

12:15-12:30 Reversing time with ultra-cold atoms for quantum undo operations  
Ivana Mastroserio, Italy (A5-1-HT)

### Parallel session (B5) Chair: Mikhail Ivanov

Hall: Beta

Invited Speakers:

10:15-10:45 Towards attosecond imaging at the nanoscale using extreme ultraviolet high harmonic sources  
Jan Rothhardt, Germany (B5-1-INV)

10:45-11:15 Influence of Shape Resonances on the Angular Dependence of Molecular Photoionization Delay  
Fabian Holzmeier, France (B5-2-INV)

11:15-11:45 Tightly-Focused Elliptically Polarized Light: a Highly Efficient Tool for Chiral Discrimination  
Laura Rego, UK (B5-3-INV)

11:45-12:00 Observing the complex dynamics in uracil via simulated XUV spectra  
Lena B uml, Germany (B5-4-INV)

Hot topic:

12:00-12:15 Sub-cycle Optical Pulses Generated via Parallel Parametric Waveform Synthesis for Attosecond Science  
Roland E. Mainz, Germany (B5-1-HT)

### 12:30-14:00 Lunch break

### Plenary Lecture 8 Chair: Franck L epine

Hall: Alfa

14:00-14:45 Atomic Physics at FAIR: Quantum Dynamics in Extreme Electromagnetic Fields  
Thomas St ohlker, Germany (Plen-8)

**14:45-15:15 Coffee break****Parallel session (A6) Chair: Thomas Stöhlker****Hall: Alfa**

Invited Speakers:

15:15-15:45	Studies of reactive and inelastic collisions in a cryogenic multipole trap	Robert Wild, Austria (A6-1-INV)
15:45-16:15	New Insights on The Ozone Formation	Marjan Mirahmadi, Germany (A6-2-INV)
16:15-16:45	X-rays from the Universe	Jörn Wilms, Germany (A6-3-INV)

Hot topics:

16:45-17:00	A Levitating Droplet as a Toy Atom	Javier Tello Marmolej Sweden (A6-1-HT)
17:00-17:15	Experimental study of X-ray photon-induced desorption from molecular ices: indirect mechanism and astrophysical implications	Romain Basalgète, France (A6-2-HT)

**Parallel session (B6) Chair: Karolina Słowik****Hall: Beta**

Invited Speaker:

15:15-15:45	Nonlinear optical phenomena from high repetition rate laser-matter interactions in transparent solids	Audrius Dubietis, Lithuania (B6-1-INV)
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Hot topics:

15:45-16:00	High-resolution manipulation and imaging of cold atoms through a multimode fiber	Sébastien Garcia, France (B6-1-HT)
16:00-16:15	Partial cross sections for mutual neutralization involving H <sup>-</sup> and D <sup>-</sup>	Arnaud Dochain, Belgium (B6-2-HT)

Invited Speaker:

16:15-16:45	The Fate of Knockout- Damaged PAHs and Fullerenes: Bridging Ultrashort and Ultralong Timescales	Michael Gatchell, Sweden (B6-2-INV)
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Hot topics:

16:45-17:00	Progress towards a molecular lattice clock to search for time-variation of the proton-to-electron mass ratio	Jonas Rodewald, UK (B6-3-HT)
17:00-17:15	The origin of enhanced O <sub>2</sub> + production from photoionized CO <sub>2</sub> clusters	Smita Ganguly, Sweden (B6-4-HT)

**17:15-19:00 Poster session 3 and coffee break**

# Friday, July 1

Hall: Alfa

8:00-9:00 Registration and welcome coffee

## Plenary Lecture 9 Chair: Alicia Palacios

Hall: Alfa

9:00-9:45	Lightwave Electronics in Trivial, Topological, and Strongly Correlated Solids	Mikhail Ivanov, Germany (Plen-9)
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9:45-10:15 Coffee break

## Parallel session (A7) Chair: Almut Beige

Hall: Alfa

Invited speakers:

10:15-10:45	Realizing a topological gauge theory in an optically dressed Bose-Einstein condensate	Leticia Tarruell, Spain (A7-1-INV) <b>CANCEL TALK</b>
10:45-11:15	Speeding up a trapped ion quantum processor via Rydberg interaction	Markus Hennrich, Sweden (A7-2-INV)
11:15-11:45	Mott-squeezed states with ultra-cold fermions	Emilia Witkowska, Poland (A7-3-INV)
11:45-12:15	Rydberg molecules : spectra and scattering properties	Shuhei Yoshida, Austria (A7-4-INV)

## Parallel session (B7) Chair: H el ene Perrin

Hall: Beta

Invited speakers:

10:15-10:45	Accurate determination of the fine-structure constant using atom interferometry	Saida Guellati-Kh�elifa, France (B7-1-INV)
10:45-11:15	Ultrastable frequency transfer through optical fiber links at the continental scale	Anne Amy-Klein, France (B7-2-INV)
11:15-11:45	Towards stimulated decay of antihydrogen atoms	Chlo�e Malbrunot, Switzerland (B7-3-INV)
11:45-12:15	An Apparatus for the Production of Squeezed Momentum State Superpositions in Atom Interferometers	Leonardo Salvi, Italy (B7-4-INV)

12:15-14:00 Lunch break

## Parallel session (A8) Chair: Ma ena Macko it-Sinkevi ien e

Hall: Alfa

14:00-15:30 EPS Young Minds Session

14:00-14:20	The European Research Council – funding opportunities for bright minds	Christian Oswald, Belgium (A8-1-YMS)
14:20-14:40	Hybrid GaSb/Si spectroscopic sensing technology as a generic technology platform for next-generation IoT and health applications	Augustinas Vizbaras, Lithuania (A8-2-YMS)
14:40-15:00	Career Opportunities in the Scientific and Industrial Laser Technologies	Gediminas Ra�iukaitis, Lithuania (A8-3-YMS)

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15:00-15:20	Discover Modern Trends in Optoelectronics Research at FTMC: Materials, Technology and Applications for Terahertz Photonics	Gintaras Valušis Lithuania (A8-4-YMS)
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15:30 Closing

**Parallel session (B8)** Chair: **Gediminas Gaigalas**

**Hall: Beta**

Invited speakers:

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14:00-14:30	Recent Developments of NIST Atomic Databases and Online Tools	Yuri Ralchenko, USA (B8-1-INV)
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14:30-15:00	Magnetometry with a nanometric-thin K vapor cell	Rodolphe Momier, France (B8-2-INV)
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15:00-15:30	Competitive Dehydrogenation and Backbone Fragmentation of Super-Hydrogenated PAHs	Mark Stockett, Sweden (B8-3-INV)
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**15:30-16:00 Coffee break**

Closing ceremony;

Concert by Petras Vyšniauskas (saxophone) and Aleksandra Žvirblytė (piano) in Hall Alfa

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